HIV Risk Behaviours Among Addictions Clients

AADAC
Policy and Program Analysis

Alberta Alcohol and Drug Abuse Commission
An Agency of the Government of Alberta

HIV RISK BEHAVIOURS AMONG ADDICTIONS CLIENTS

Darlene James and Kathy Huebert
Policy and Program Analysis

Alberta Alcohol and Drug Abuse Commission
An Agency of the Government of Alberta
July, 1991

200/3.25/91 (c)

92-00152/

HIV Risk Behaviours Among Addictions Clients

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY i

1. INTRODUCTION 1

2. METHOD 3

3. FINDINGS 4

   3.1 Characteristics of the Sample 4
   3.2 Client Level of Knowledge about AIDS 6
   3.3 Client Needle Sharing Risk Behaviour 7
   3.4 Client Sex Related Risk Behaviour 9
   3.5 Client Response to AIDS 10
   3.6 Needle Sharers versus Non-Needle Sharers 10
   3.7 Client Level of Risk 11

4. DISCUSSION 13

5. CONCLUSIONS AND RECOMMENDATIONS 15

6. REFERENCES 17

APPENDIX A: Questionnaire and Counsellor Instructions

APPENDIX B: Client Level of Risk - Scale Construction

LIST OF TABLES

Page

Table 1: AADAC Facilities Included in the Study 3

Table 2: Characteristics of the Sample 4

Table 3: Injection Drug Use History 5

Table 4: Most Common Drugs Injected 6

Table 5: Knowledge about AIDS 7

Table 6: Reasons for Needle Sharing 8

Table 7: Needle Cleaning Practices 9

Table 8: Respondent Level of Risk for AIDS Infection: Sexual Behaviour and Drug Use Practices 12

EXECUTIVE SUMMARY

Injection drug users are an important group at risk for the acquired immunodeficiency syndrome (AIDS). They also represent the primary bridge for infection in the heterosexual population and a woman who is pregnant can infect her unborn child. The human immunodeficiency virus (HIV) can be transmitted through contaminated blood left in needles, syringes, and other injection equipment that may be shared. The risk of transmission increases further if persons who share needles engage in certain sexual behaviours.

Gaps do exist in the literature on AIDS among injection drug users. Studies tend to focus on needle sharing while less is known about other high risk behaviours and how these relate to transmission of the virus. In addition, current knowledge is based primarily on research originating in the United States and Western Europe. Few Canadian studies have examined the possible overlap between needle sharing and high risk sexual behaviours.

The purpose of this study was to increase our understanding of the high-risk behaviours among AADAC injection drug use clients. Doing so facilitates the development of appropriate treatment and prevention strategies for this particular group. The study had three main objectives:

1. To examine AADAC injection drug use clients' level of knowledge about AIDS.
2. To examine AADAC injection drug use clients' needle sharing and sexual behaviour related to the transmission of AIDS.
3. To examine AADAC injection drug use clients' response to AIDS.

The study involved a self-administered survey of injection drug use clients admitted for treatment between April 1 and July 31, 1990. Surveys were administered through AADAC outpatient and detoxification facilities in six locations. The questionnaire used was adapted from the World Health Organization's International Multi-Centre Study. It covered the following areas: demographics, drug use, needle sharing, anal and vaginal intercourse, knowledge about AIDS, and AIDS testing.

One-hundred and fifty (150) clients completed questionnaires. Their demographic profile suggests an older clientele with a long and continued history of drug use. The majority of respondents were male (70.0%) and between the ages of 20 and 39 years (86.0%). The average age for participants was 31 years and about sixty percent (59.7%) had less than high school education.

HIV Risk Behaviours Among Addictions Clients

Observed patterns of drug use among clients were relatively consistent with those reported in the literature. Primary cocaine, heroin, and amphetamine injection, as well as the combined use of heroin and cocaine/amphetamine (speedballs) were common. Concurrent use of alcohol, cannabis and other non-injection drugs was also evidenced, suggesting a pattern of polydrug use. High levels of cocaine use may be indicative of a general increase in use across North America.

Overall, knowledge about AIDS was high among participants. The percentage of correct responses to each of eight knowledge statements ranged from 87.2% to 99.3%. In particular, it was interesting to note that 98.6% were aware that you can get AIDS by sharing needles with someone who has the AIDS virus. However, findings showed a lack of correspondence between reported knowledge and protective behaviour suggesting that continued high risk behaviours cannot be attributed to ignorance.

Almost two-thirds (60.4%) of the sample reported injecting with equipment used by someone else. The most common reason given for sharing was simply respondents not having their own needle and syringe (87.2%). A minority shared because equipment cost too much (6.0%). Respondents indicated that they got needles and syringes from a variety of sources but most often needles were obtained from friends (52.1%) or supplied by dealers (20.5%). Among those who shared, 56.3% reported cleaning their equipment with hot water and 41.4% said they used bleach.

In the six months prior to questionnaire completion, 96.0% of clients were sexually active. A majority (88.7%) reported having vaginal sex whereas a substantially smaller percentage (14.1%) reported engaging in anal sex. As a group, injection drug users engaged in a number of sexual behaviours which put them at risk for contracting and transmitting HIV. Few regularly used condoms (33.1%), many had multiple sexual contacts (56.6%), and a sizeable number had partners who also injected drugs (53.5%).

This is not to say that clients failed to acknowledge or respond to the threat of AIDS. Many had undergone testing (57.4%) and none of these clients reported seropositivity. Clients commented on behaviour changes they had made since first hearing about AIDS. In general, their responses fell into four categories: (1) those indicating a change in needle sharing behaviour (65.9%) such bleaching needles or not sharing equipment; (2) clients reporting some change in sexual behaviour (39.7%) such as being careful about sexual partners or using condoms; (3) clients indicating no change in their behaviour (10.3%); and (4) those reporting other changes outside of these categories (4.8%) such as having regular checkups and blood tests.

Findings demonstrated the considerable overlap that exists between unsafe injection practices and risky sexual contact. While the majority of clients (40.4%) were at moderate risk for contracting or transmitting the AIDS virus through sexual contact and drug practices, a small but significant proportion (5.8%) were at considerable risk due to their participation in both types of activities. This relationship is perhaps best exemplified as a continuum of risk. At one end there will be a relatively large number of injection drug users who engage in few activities which put them or their partners at risk for infection. As we move along the continuum, a somewhat smaller group will be engaged in singular activities, such as needle sharing. At the extreme end there will be a few individuals who engage in multiple high risk activities, exposing themselves and others to the virus.

Results suggest that the potential spread of AIDS among injection drug users leaves no room for complacency. Observed high risk activities among clients were similar to those evidenced in studies conducted in the U.S. and Europe where seroprevalence rates are more than five times that reported in Canada. Findings have implications for addictions treatment and raise a number of issues relevant to AIDS education and prevention.

1. INTRODUCTION

Injection drug users are an important group at risk for the acquired immunodeficiency syndrome (AIDS). They also represent the primary bridge for infection in the heterosexual population and a woman who is pregnant can infect her unborn child. The human immunodeficiency virus (HIV) can be transmitted through contaminated blood left in needles, syringes, and other injection equipment that may be shared. The risk of transmission increases further if persons who share needles engage in certain sexual behaviours, such as anal intercourse, which can result in tissue abrasion, providing a means of viral entry. As such, injection drug users form the second largest group at risk for contracting and spreading HIV. In the U.S., about 25% of all AIDS cases involve injection drug use and the rate is as high as 51% in England and Scotland (Smart, et al., 1990) and 68% in Italy (Nicolosi, et al., 1991). Rates in Canada are considerably lower (4.3%) but the spread of infection within this group can occur rapidly (Adrien, 1989).

According to the literature, needle sharing is a common practice among injection drug users and of primary concern in terms of infection. Studies suggest this behaviour may be prompted by practical concerns such as needle/syringe availability, convenience, and uncomfortable withdrawal symptoms. Sharing is compounded by the fact that users are often unaware or unsure of the cleaning methods which would protect them from infection and among those who clean their equipment, methods are not always consistent or effective.

In conjunction with needle sharing, research indicates that a number of other factors are relevant to HIV exposure within this group. Situational and perceptual factors include: (1) the use of "shooting galleries", a phenomenon of particular concern in the United States, where the opportunity for needle sharing and exposure to contaminated blood is increased; (2) concurrent use of multiple substances, which may foster susceptibility to infection by reducing the body's immune resistance; (3) polydrug use, which can impair judgement, and increase the occurrence of risk-related drug practices and/or sexual behaviour; (4) increased cocaine use, which has recently been linked with positive serostatus, suggesting certain aspects of its use (i.e., binge patterns, sexual promiscuity) may potentiate the risk for infection; and (5) injection drug users dislike of condoms and scepticism about their effectiveness.

Gaps in the literature on AIDS among injection drug users do exist. Studies tend to focus more on needle sharing while less is known about other high risk behaviours and how these relate to transmission of the virus. In addition, current knowledge is based primarily on research originating in the United States and Western Europe. Few Canadian studies have examined the possible overlap between needle sharing and high risk sexual behaviours.

This study examined the incidence of both types of behaviours among injection drug users admitted for treatment at AADAC. Between April 1, 1988 and March 31, 1990, approximately one of every five clients reported injection drug use at some point in their lives. This represents a substantial number of clients who may be at risk for acquiring and transmitting AIDS. In order to help these individuals avoid or cope with HIV infection, a better understanding of the association between certain behaviours and their potential for disease transmission is required.

The purpose of this study was to increase our knowledge of the high-risk behaviours among AADAC injection drug use clients. Doing so facilitates the development of appropriate treatment and prevention strategies for this particular group. The study had three main objectives:

1. To examine AADAC injection drug use clients' level of knowledge about AIDS.

2. To examine AADAC injection drug use clients' needle sharing and sexual behaviour related to the transmission of AIDS.

3. To examine AADAC injection drug use clients' response to AIDS.

2. METHOD

The study involved a confidential survey of injection drug use clients admitted for treatment between April 1 and July 31, 1990. Surveys were administered through outpatient and detoxification facilities in six locations. In total, nine AADAC facilities participated in the study (Table 1).

Table 1
AADAC Facilities Included in the Study

Location	Facility	Respondents
Calgary	Calgary Counselling Services	17
	Renfrew Recovery Centre	33
Edmonton	AADAC Recovery Centre	49
	Downtown Treatment Centre	15
	West End Centre	11
Fort McMurray	AADAC Area Office	1
Grande Prairie	AADAC Area Office	1
Lethbridge	AADAC Area Office	12
Red Deer	AADAC Area Office	11
TOTAL		150

All new clients admitted for treatment services are routinely asked about their alcohol and/or drug use including injection drug use. AADAC counsellors were instructed to ask those clients reporting injection drug use at some point in their lives to participate in the study. Participation was voluntary and had no effect on treatment. Due to the sensitive nature of the questions, the questionnaire was self-administered. No personal identifiers were included and confidentiality was assured by having clients place completed questionnaires in a ballot box.

The questionnaire was adapted from the World Health Organization's International Multi-Centre Study. It covered the following areas: demographics; drug use; needle sharing; anal and vaginal intercourse; knowledge about AIDS; and AIDS testing. It contained explicit questions on anal and vaginal intercourse as there are different levels of risk associated with each. Appendix A includes a copy of the questionnaire and instructions to counsellors.

Data were analyzed using cross tabulations and tests of significance (i.e., chi-square, t-test) to determine whether differences occurred among respondents. In particular, men and women responding to the survey were compared in terms of age, education, drug use history, needle sharing behaviour, sexual activities and AIDS knowledge. Similar comparisons were made on the basis of clients' injection drug use patterns in the year prior to admission.

3. FINDINGS

3.1 Characteristics of the Sample

One-hundred and fifty (150) clients completed questionnaires. As shown in Table 2, the majority were male (70.0%) and between the ages of 20 and 39 (86.0%). The average age for the sample was 31 years. Among female clients, 88.9% were of child bearing age (18 to 40 years). About sixty percent of respondents (59.7%) had less than high school education. Males and females in the sample differed significantly in age; on average, men (31.5 years) were slightly older than women (28.1 years).

Table 2
Characteristics of the Sample

Characteristic	Number of Clients	Percentage of Clients
Age:		
14-19	7	4.6%
20-29	56	37.3%
30-39	73	48.7%
40+	14	9.3%
Total	150	99.9%*
Average age 30.5 years		
S.D. 6.7 years		
Sex:		
Male	105	70.0%
Female	45	30.0%
Total	150	100.0%
Education:		
Less than High School	89	59.7%
High School	27	18.1%
Some post-secondary	33	22.1%
Total	149	99.9%*

* Total percent may not equal 100% due to rounding.

The drug use history of respondents varied somewhat (Table 3). Approximately half (54.4%) reported injecting for the first time when in their teens and about one-third (34.2%) injected for the first time during their twenties (mean age was 19.3 years). Equipment for the first injection was most commonly obtained from friends (57.3%), dealers (16.0%), family members (8.0%), or drug stores (7.3%). The time since respondents last injected ranged from less than a month to as much as 17 years. However, 62.6% had injected within the six months prior to completing the questionnaire.

Based on patterns of injection drug use in the year prior to treatment admission, 4.2% of the sample were classified as new users (these clients injected for the first time during the previous year), 30.8% were classified as former users (these clients had not injected during the previous year but had injected at sometime in their lives), and 65.0% were classified as chronic users (these clients had an ongoing history of injection drug use).

Table 3
Injection Drug Use History

	Number of Clients	Percentage of Clients
Age when first injected:		
9-13	10	6.7%
14-19	81	54.3%
20-29	51	34.2%
30-39	7	4.7%
Total	149	99.9%*
Median = 17 years		
Range (9-37 years)		
Months since last injection:		
1 month or less	30	20.4%
2-6 mths	62	42.2%
7-12 mths	8	5.4%
13-24 mths	15	10.2%
25-36 mths	7	4.8%
37-48 mths	5	3.4%
49-60 mths	3	2.0%
61+ mths	17	11.6%
Total	147	100.0%
Median = 4 months		
Range (< 1-211 months)		

* Total percent may not equal 100% due to rounding.

The most common drugs injected were cocaine (83.6%), Talwin and Ritalin (46.9%)[1], heroin (33.3%), amphetamines (32.2%), and tranquilizers (25.4%). In terms of frequency of injecting these drugs, cocaine was the highest with 51.4% of respondents indicating weekly or daily injections (Table 4). Further reflecting this finding, almost two-thirds (62.4%) of the respondents indicated that the drug combination they most preferred was cocaine mixed with other stimulants or depressants. Chronic users were more likely to inject opiates whereas both new and chronic users were more likely to inject cocaine. In addition to injecting drugs, many respondents reported other non-injection drug use including cocaine (85.4%), alcohol (75.4%) and cannabis (66.2%).

Table 4
Most Common Drugs Injected

Drug	Frequency of Use			
	Daily	Weekly	Monthly	< Monthly
Cocaine	31.5%	19.9%	18.5%	13.7%
Talwin & Ritalin	12.4%	12.4%	8.3%	13.8%
Heroin	7.6%	7.6%	6.9%	11.1%
Amphetamines	9.1%	9.1%	5.6%	8.4%
Tranquilizers	9.9%	1.4%	5.6%	8.5%

3.2 Client Level of Knowledge about AIDS

Overall, knowledge about AIDS was high among respondents. The percentage of correct responses to each of eight knowledge statements listed in Table 5 ranged from 87.2% to 99.3%. In particular, it was interesting to note that 98.6% were aware that you can get AIDS by sharing needles for drug use with someone who has the AIDS virus. New users were less

[1] Called "poor man's heroin", the combined injection of Talwin (Pentazocine), an analgesic, and Ritalin (Methylphenidate), a stimulant, has been a problem in Alberta and other Western Provinces for more than ten years (AADAC Policy and Program Analysis, 1989).

likely than former or chronic users to know that AIDS can reduce the body's protection against disease and they were more likely to believe that looking at a person is enough to tell whether or not they are infected.

Table 5
Knowledge About AIDS

Knowledge Statement	Percentage of Respondents with Correct Responses
1. AIDS leads to death.	99.3%
2. You can get AIDS by sharing needles for drug use with someone who has the AIDS virus.	98.6%
3. AIDS can reduce the body's protection against disease.	96.6%
4. Any person with the AIDS virus can pass it during sexual intercourse.	95.9%
5. A pregnant woman who has the AIDS virus can give the virus to her baby.	94.6%
6. A person who has the AIDS virus can look and feel healthy and well.	89.9%
7. Looking at a person is enough to tell if s/he has the AIDS virus.	88.5%
8. A person can be infected with the AIDS virus and not have the disease AIDS.	87.2%

Respondents were less sure of the answer to a separate question on whether there is a difference between having the AIDS virus and having the disease AIDS. A sizeable number of respondents either did not know (20.0%) or responded no (20.7%) to this question, possibly suggesting some gaps in knowledge.

3.3 Client Needle Sharing Risk Behaviour

Despite high levels of knowledge about AIDS, respondents reported varied behaviour patterns in terms of needle sharing. Almost two-thirds (60.4%)[2] reported injecting with needles used by someone else although frequency varied; 28.2% reported less than monthly sharing, 12.1% reported monthly, 10.1% reported weekly, and 10.1% reported daily sharing of needles.

---

[2] One respondent failed to provide information on needle sharing behaviour and was excluded from further analysis.

Clients' reasons for needle sharing are listed in Table 6. The most common (87.2%) reason given was simply respondents not having their own needle and syringe. Other reasons included being careful about who they shared with (61.2%), thought it was safe because the needle was cleaned (60.0%), and no particular reason (40.8%). A minority (6.0%) shared because equipment cost too much.

Table 6
Reasons for Needle Sharing

Reason for Needle Sharing	Percentage of Respondents (n=90)
1. I didn't have my own needle and syringe.	87.2%
2. I am careful who I share with.	61.2%
3. I thought it was safe because I cleaned it.	60.0%
4. No particular reason.	40.8%
5. Needles and syringes are hard to get.	26.5%
6. It's not legal to have them.	19.5%
7. My friends put pressure on me to share.	18.8%
8. I was in custody or prison.	15.0%
9. I always share.	9.6%
10. Needles and syringes cost too much.	6.0%
11. I enjoy sharing.	3.6%

Men and women did not differ in their needle sharing behaviour but they did display some differences in their reasons for sharing; these differences were not statistically significant. Men were more likely to report sharing because they cleaned their equipment and thought it was safe (64.3% vs. 52.0%), because they were in custody or prison (19.6% vs 4.2%), or because they believed possession of injection equipment was illegal (24.1% vs. 8.3%).

Respondents indicated that they got needles and syringes from a variety of sources. Most commonly needles were obtained from friends (52.1%) but they were also supplied by dealers (20.5%), shooting galleries (11.0%), strangers (8.2%), and family members (6.8%). Among those who shared needles, the number of people giving respondents used needles in the last six months of their injection drug use varied from as few as one person to ten or more. Most (82.7%) shared with between one and three persons.

Frequency and method of needle cleaning also varied among clients. Of those reporting needle sharing, 38.9% indicated that they always cleaned their needles and another 29.5% reported cleaning used needles seventy-five percent or more of the time. The remaining third (31.6%) cleaned their needles about fifty percent of the time or less.

Table 7 shows the usual needle cleaning practices reported by respondents. The two most common methods included using hot water (56.3%) and using bleach (41.4%). Overall, 71.3% of those sharing needles used less effective cleaning methods (hot or cold water) whereas 28.7% used more effective methods (bleach, peroxide, alcohol).

Table 7
Needle Cleaning Practices

Usual Needle Cleaning Method	Number of Responses	Percentage of Needle Sharers
Hot water	49	56.3%
Bleach	36	41.4%
Cold water	19	21.8%
Peroxide	13	14.9%
Other (e.g. alcohol)	6	6.9%

3.4 Client Sex Related Risk Behaviour

In the six months prior to questionnaire completion, 96.0% of respondents were sexually active. A majority (88.7%) reported having vaginal sex whereas a substantially smaller percentage (14.1%) reported engaging in anal sex. Few clients regularly used condoms (33.1%) yet more than half the sample (56.6%) had multiple sexual partners. Only a small number indicated they had ever contracted a sexually transmitted disease (5.6%).

Among those indicating vaginal sex, most had sex weekly (42.2%), about one quarter (23.2%) had sex monthly, and about one fifth (21.6%) had sex daily. Forty percent (40.0%) did so with one person and just over one third (35.2%) did so with two to three people. About forty percent (41.3%) indicated that none of their sexual partners had injected drugs and another 35.7% reported that one partner had injected drugs. As for condom use, two thirds (66.7%) never used condoms for vaginal sex. Among those reporting vaginal sex with 20 persons or more in the previous six months, 20.0% said they never used condoms.

The frequency of anal sex within the six months prior to questionnaire completion was less than for those reporting vaginal sex. That is, 63.2% had anal sex less than once a month and about one quarter (26.3%) engaged in anal sex monthly. Most (63.2%) had just one partner and another third (31.6%) had anal sex with two to three people. Almost half (47.4%) of this group revealed that one of their partners had injected drugs, 21.1% indicated none of their partners injected, and 21.1% did not know if their partners had injected drugs. As with those engaging in vaginal sex, the majority (68.4%) never used condoms. Chronic users were more likely to have engaged in anal sex than either new or former users.

3.5 Client Response to AIDS

Just over half of respondents (57.4%) said that they had been tested for the HIV virus and most (82.9%) had been tested within the past two years. Among those tested, the majority (95.1%) reported negative results and a small percentage (4.9%) reported not knowing their test outcome. Analysis showed that chronic users were more likely to have been tested for AIDS.

Respondents commented on behaviour changes they had made since they first heard about AIDS. In general, their responses fell into four categories: (1) clients indicating a change in needle sharing behaviour (65.9%) such as bleaching needles or not sharing equipment; (2) clients reporting some change in sexual behaviour (39.7%) such as being careful about sexual partners or using condoms; (3) clients indicating no change in their behaviour (10.3%); and (4) those reporting other changes outside of these categories (4.8%) such as having regular checkups and blood tests.

3.6 Needle Sharers versus Non-Needle Sharers

The risk of exposure to HIV and the risk for transmission of the virus are elevated considerably when injection drug users share needles and other equipment. As such, clients in the sample who reported sharing (n=90) were compared with those who did not share (n=59)[3] to determine if these groups differed in other ways.

Characteristics such as gender, age and education were similar among needle sharers and non-needle sharers. A few notable differences were observed in drug use patterns although these were not statistically significant. For example, needle sharers were more likely to have injected Talwin and Ritalin (52.2% vs. 38.2%), report weekly or greater use of alcohol (35.1% vs. 14.3%) and cannabis (23.1% vs 13.5%), and report daily or more injections of cocaine (36.0% vs 25.0%).

In terms of sexual behaviour, needle sharers engaged in a greater number of risky sexual practices. A larger proportion of needle sharers reported having anal sex (18.3% vs. 7.5%) and a smaller proportion used condoms during intercourse (44.6% vs. 55.4%). Needle sharers were also more likely to have multiple sex partners (63.0% vs. 37.0%) and a greater number of their partners were injection drug users (41.3% vs. 23.5%).

---

[3] See note 2.

3.7 Client Level of Risk

To examine client level of risk for transmission AIDS, two scales were developed. Nine questionnaire items were summed into a score reflecting level of involvement in risky sexual behaviours and four items were summed into a score reflecting risk-related drug practices (Appendix B). Forty-six (46) respondents who failed to provide adequate information on either their sexual behaviours or drug use and were excluded from further analysis.

These two scales were positively correlated suggesting an interrelationship between high risk sexual activity and drug using behaviours. To assess this overlap, three categories of risk (low, moderate, high) were constructed from the client scores on each scale (Appendix B).

As shown in Table 8, most injection drug users (73.1%) were at moderate risk for infection due to their sexual behaviour and an equal number were either at low (13.5%) or high (13.5%) sexual risk. Alternately, just over half of the clients (54.8%) were at moderate risk for infection due to their drug use, more than one third (35.6%) were at low risk, and about one tenth (9.5%) were at high risk for infection due to their drug practices. Analysis further revealed that clients at high risk for infection due to their drug practices were more likely to have done nothing in response to AIDS.

While the overlap in risk-related behaviours indicates the majority of clients (40.4%) were at moderate risk for contracting or transmitting the AIDS virus, a small but significant proportion (5.8%) were at considerable risk due to their participation in both types of activities.

Table 8
Respondent Level of Risk for AIDS Infection:
Sexual Behaviour and Drug Use Practices

	Level of Risk - Drug Practices			
Level of Risk - Sexual Behaviour	Low	Moderate	High	Total
Low	5 (4.8%)	8 (7.7%)	1 (1.0%)	14 (13.5%)
Moderate	31 (29.8%)	42 (40.4%)	3 (2.9%)	76 (73.1%)
High	1 (1.0%)	7 (6.7%)	6 (5.8%)	14 (13.5%)
TOTALS	37 (35.6%)	57 (54.8%)	10 (9.6%)	104 (100.0%)

4. DISCUSSION

The demographic profile of injection drug users participating in this study suggests an older clientele with a long and continued history of drug use. These characteristics are similar to those reported in other studies of treatment populations but differ somewhat from those reported among non-clinical samples. For example, Baxter & Schlecht (1990) and Waldorf, et al., (1990) found that injection drug users in the community were younger and more apt to exhibit erratic patterns of behaviour. The process of maturation related to age and the number of physical and social consequences associated with prolonged drug use may provide increased recognition of the need for behaviour change. As such, it is unlikely that injection drug users who are motivated to seek treatment are representative of all injection drug users.

Observed patterns of drug use among clients were relatively consistent with those reported in the literature. Primary cocaine, heroin, and amphetamine injection, as well as the combined use of heroin and cocaine/amphetamine (speedballs) were common. Unique among clients, in comparison to U.S. and British studies, was the sizable proportion who injected prescription drugs; namely, Talwin and Ritalin. Concurrent use of alcohol, cannabis and other non-injection drugs was also evidenced, suggesting a pattern of polydrug use. High levels of cocaine use may be indicative of a general increase in use across North America.

Clients exhibited a high level of knowledge concerning basic AIDS facts. They were well aware of the major routes of transmission yet findings show a lack of correspondence between reported knowledge and protective behaviour. These results are comparable with other studies suggesting continued high risk behaviours cannot be attributed to ignorance. Given the sensitive nature of the questionnaire, and within the current context of AIDS however, some under reporting may have occurred. As such, generalization of these findings should be made with caution.

It is encouraging to note that injection drug users are adopting less risky drug practices. Nonetheless, needle sharing remains common and cleaning methods are not always consistent or effective. Most respondents obtained used equipment from friends or family members and the majority shared with a small number of persons. This suggests conducive social conditions may promote needle sharing but pragmatic reasons, such as not having equipment, were the most salient factors influencing clients to share. There is little evidence to support the contention that needle sharing is a ritualistic behaviour inherent in the drug culture or that it is the preferred choice among injectors. However, there may be reason to believe that the number of persons sharing equipment is higher than reported. According to McKeganey, et al. (1989) and Waldorf, et al. (1990), almost everyone shares when they first inject .

As a group, injection drug users engaged in a number of sexual behaviours which put them at risk for contracting and transmitting HIV. It is unknown however, whether these behaviours differ from the types of sexual activity occurring in other populations. Although clients reported some changes in their sexual activity in response to AIDS, few regularly used

condoms, many had multiple sexual contacts, and a sizeable number had partners who also injected drugs. Those who continue to share equipment put themselves in double jeopardy because of their needle sharing and because they are less likely to practice safer sex. According to Feucht, et al. (1990), the greatest risk of HIV infection for injection drug users is associated with drug use. The risk incurred through unsafe sexual activity, even with other injection drug users is elevated, but secondary. The fact that a number of clients had partners who did not inject highlights the potential spread of infection to people for whom this contact might be the only significant risk factor.

This is not to say that clients failed to acknowledge or respond to the threat of AIDS. Many had undergone testing and none of these clients reported seropositivity. Clients had initiated changes in their needle sharing practices and to a lesser extent in their sexual behaviours, but it would appear that risk behaviours have been modified rather than eliminated. A substantial number of injection drug users continue to engage in behaviours which increase the likelihood of exposure. According to Stimson, et al. (1988), inconsistencies between knowledge and behaviour are often noted in health promotion campaigns. It is unlikely that a singular explanation can account for these gaps. Both perceptual and situational factors play an important role in the initiation and maintenance of behaviour change.

Findings further demonstrate the considerable overlap that exists between unsafe injection practices and risky sexual contact. This relationship is perhaps best exemplified as a continuum of risk. At one end there will be a relatively large number of injection drug users who engage in few activities which put them or their partners at risk for infection. As we move along the continuum, a somewhat smaller group will be engaged in singular activities, such as needle sharing. At the extreme end there will be a few individuals who engage in multiple high risk activities, exposing themselves and others to the virus. According to Coleman & Curtis (1988), this concentration of high risk behaviour may explain the relatively low incidence of HIV infection encountered in this population thus far.

5. CONCLUSIONS AND RECOMMENDATIONS

Results from this study suggest the potential spread of AIDS among injection drug users leaves no room for complacency. Observed high risk activities among clients were similar to those evidenced in studies conducted in the U.S. and Europe where seroprevalence rates are more than five times that reported in Canada. The number of treatment clients at risk for contracting and spreading AIDS implies a need for targeted intervention by the addictions community. On a general level, treatment can be effective in decreasing substance use, thus enhancing health and improving the body's immune response. On a more specific level, treatment can reduce the number of persons who inject drugs, limiting the potential for infection within and outside this group. Aside from the direct impact treatment can have on drug use, specialists in the field are in a position to initiate AIDS education and prevention programming.

Recommendation 1: Include AIDS information as a regular component of alcohol and drug education programs.

Rationale: While education alone is not enough to effect widespread or rapid behavioral change, educational campaigns targeted to injection drug users appear to be effective in providing current and accurate information; they are an essential component in fighting the spread of AIDS. Knowledge and awareness may have led to partial modifications in behaviour, particularly in terms of needle sharing, but there are existing discrepancies between risk recognition and the adoption of risk reducing practices. Greater attention must be focused on stimulating awareness of sexual transmission, and health information campaigns must move away from an emphasis on single risk activities and focus on the multiplicity of behaviours that place individuals at risk.

Recommendation 2: Provide AIDS information, counselling and testing to those injection drug users who enter treatment.

Rationale: There is reason to believe that injection drug users, particularly those who seek treatment, are concerned about their health and responsive to the threat of AIDS. Client motivation, coupled with cooperative strategies on the part of healthcare workers, provide a unique opportunity for direct intervention. Treatment specialists and medical personnel can offer information, skill training and support, enabling injection drug users to take an active role in preventing the spread of AIDS. A recent study of injection drug users (Nicolosi, et al., 1991) found that addictions treatment, comprised of detoxification, counselling and HIV testing, was effective in decreasing substance use and reducing the number of persons who inject.

Recommendation 3: Support AIDS prevention and risk-reduction strategies offered in the community.

Rationale: The lack of effective treatment for HIV and AIDS emphasizes the need for targeted prevention and risk-reduction programs. Efforts must be directed not only at attitude change but on providing practical alternatives. Goals should be realistic given that injection drug users are more likely to minimize risk rather than eliminate behaviour. Programs must focus on changing the norms surrounding needle sharing and sexual activity while at the same time fostering positive attitudes toward the adoption of risk-reduction behaviours. Access to clean needles, bleach and teach kits, free condoms, medical care and substance abuse treatment are essential adjuncts. To effectively limit the pool of HIV infected persons, prevention must also be aimed at reducing the number of persons initiated into injection use, as well as the sexual partners of injection drug users; specifically women who may become pregnant.

Recommendation 4: Encourage and support research activities designed to monitor and evaluate program effectiveness.

Rationale: Concurrent with intervention, research results must be used to develop and refine appropriate programs while evaluation is necessary to ensure that the needs of injection drug users are being met.

The magnitude of the AIDS problem requires constructive and innovative strategies to reduce the spread of infection. Drug use will continue despite official attempts to discourage it, and repressive social policies (as seen in the criminalization of needle and syringe possession in the United States) serve only to isolate injection drug users from the social and medical systems designed to assist them.

6. REFERENCES

AADAC Policy and Program Analysis (1989, December 7). Talwin Compound 50 (Briefing Note). Edmonton, Alberta: Alberta Alcohol and Drug Abuse Commission (Unpublished).

Adrien, A. (1989). Strategies for HIV transmission prevention in Quebec. Canadian Journal of Public Health, 80 (Supplement 1), S24-S25.

Baxter, D.N. & Schlecht, B. (1990). Patterns of behaviour amongst injecting drug users-implications for HIV. Public Health, 104, 321-325.

Chitwood, D.D. & Comerford, M. (1990). Drugs, sex, and AIDS risk. Cocaine users versus opiate users. American Behavioral Scientist, 33 (4), 465-477.

Clark, S. (1988). An AIDS primer for helping professionals and educators. Edmonton, Alberta: Alberta Alcohol and Drug Abuse Commission (Unpublished).

Coleman, R.M. & Curtis, D. (1988). Distribution of risk behaviour for HIV infection amongst intravenous drug users. British Journal of Addiction, 83, 1331-1334.

Coleman, R.M., Curtis, D. & Feinmann, C. (1988). Perception of risk of HIV infection by injecting drug users and effects on medical clinic attendance. British Journal of Addiction, 83, 1325-1329.

Des Jarlais, D.C. & Friedman, S.R. (1988). HIV infection among persons who inject illicit drugs: Problems and prospects. Journal of Acquired Immune Deficiency Syndrome, 1, 267-273.

Des Jarlais, D.C., Friedman, S.R., Casriel, C. & Kott, A. (1987). AIDS and preventing initiation into intravenous (IV) drug use. Psychology and Health, 1, 179-194.

Feldman, H.W. & Biernacki, P. (1988). The ethnography of needle sharing among intravenous drug users and implications for public policies and intervention strategies. Needle sharing among intravenous drug abusers: National and international perspectives (NIDA Research Monograph 80). Bethesda, Maryland: National Institute on Drug Abuse.

Feucht, T.E., Stephens, R.C. & Roman, S.W. (1990). The sexual behaviour of intravenous drug users: Assessing the risk of sexual transmission of HIV. Journal of Drug Issues, 20, 195-213.

Hewitt, D. & Vinje, G. (in press). Injection drug use among addictions treatment clients in Alberta: Implications for the spread of AIDS. Canadian Journal of Public Health.

Klee, H., Faugier, J., Hayes, C., Boulton, T. & Morris, J. (1990). Sexual partners of injecting drug users: The risk of HIV infection. British Journal of Addiction, 85, 413-418.

Magura, S., Grossman, J.I., Lipton, D.S., Siddiqi, Q., Shapiro, J., Marion, I. & Amann, K.R. (1989). Determinants of needle sharing among intravenous drug users. American Journal of Public Health, 79 (4), 459-462.

McCoy, H.V., McKay, C. Y., Hermanns, L. & Lai, S. (1990). Sexual behaviour and the risk of HIV infection. American Behavioral Scientist, 33 (4), 432-450.

McKeganey, N., Barnard, M. & Watson, H. (1989). HIV-related risk behaviour among a non-clinic sample of injecting drug users. British Journal of Addiction, 84, 1481-1490.

Millson, M., Coates, R., Devenyi, P., Franklin, T. & Rankin, J. (1990). AIDS related knowledge, attitudes and behaviour in injection drug users attending a Toronto treatment facility. Canadian Journal of Public Health, 81 (1), 46-52.

Nicolosi, A., Molinari, S., Musicco, M., Saracco, A., Ziliani, N. & Lazzarin, A. (1991). Positive modification of injecting behaviour among intravenous heroin users from Milan and Northern Italy 1987-1989. British Journal of Addiction, 86, 91-102.

Ottomanelli, G., Kramer, T.H., Bihari, B., Fine, J., Heller, S. & Mosely, J.A. (1990). AIDS-related risk behaviours among substance abusers. The International Journal of the Addictions, 25 (3), 291-299.

Rhodes, F., Corby, N.H., Wolitski, R.J., Tashima, N., Crain, C., Yankovich, D.R. & Smith, P.K. (1990). Risk behaviours and perceptions of AIDS among street injection drug users. Journal of Drug Education, 20 (4), 271-288.

Ruel, J.M. & Hickey, C.P. (1990). Survey of methadone patients in Canada. Canadian Journal of Public Health, 81 (4), 272-274.

Smart, R.G., Adlaf, E.M. & Porterfield, K.M. (1990). Injection drug use and needle sharing among Ontario students. Canadian Journal of Public Health, 81 (4), 295-296.

Stimson, G.V., Donoghoe, M., Alldritt, L. & Dolan, K. (1988). HIV transmission risk behaviour of clients attending syringe-exchange schemes in England and Scotland. British Journal of Addiction, 83, 1449-1455.

Waldorf, D., Murphy, S., Lauderback, D., Reinarman, C. & Marotta, T. (1990). Needle sharing among male prostitutes: Preliminary findings of the Prospero Project. Journal of Drug Issues, 20, 309-334.

Windle, M. (1989). High-risk behaviours for AIDS among heterosexual alcoholics: A pilot study. Journal of Studies on Alcohol, 50, 503-507.

APPENDIX A

QUESTIONNAIRE AND COUNSELLOR INSTRUCTIONS

AADAC CLIENT SURVEY

We are researching clients needs for information about AIDS. You can help us by answering this questionnaire as completely as you are able.

Please do not put your name anywhere on this questionnaire. We want to keep the information anonymous.

Please try to answer each question. If you are not sure about an answer, choose the answer that is closest, or most correct.

Thank you for helping us with this research.

IF YOU HAVE QUESTIONS ABOUT THIS SURVEY, PLEASE ASK THE RECEPTIONIST OR YOUR COUNSELLOR FOR MORE INFORMATION.

1. My date of birth is: _____ Month _____ Year

2. I am _____ Male _____ Female

3. The highest grade I completed in school was: (CIRCLE ONE ONLY)

Grade 6 or less	Grade 7 to 11	Gr 12 or 13	Part College or University Degree	Finished a College or University Degree

Other, Please describe _____

4. When did you FIRST INJECT DRUGS: _____ Month _____ Year

5. How old were you THE FIRST TIME YOU INJECTED DRUGS?

_____ Years old

6. Where did you get your equipment **THE FIRST TIME YOU INJECTED DRUGS**? (CHECK ONE ONLY)

_____ A family member
_____ A friend
_____ A dealer
_____ Someone in a shooting gallery
_____ A fellow prisoner
_____ Someone you did not know
_____ Needles or syringes you found somewhere on the street
_____ Other Please describe _____

7. When was the LAST TIME YOU INJECTED DRUGS?

_____ Month _____ Year

8. IN THE LAST SIX MONTHS OF YOUR INJECTION USE, how often did you **INJECT** each of the following drugs? (CHECK HOW OFTEN YOU **INJECTED** EACH DRUG)

	Never	Less than once a month	1 - 3 times a month	Once a week or more	Once a day or more
Junk, Heroin	___	___	___	___	___
Coke, Cocaine	___	___	___	___	___
Methadone	___	___	___	___	___
T's and R's	___	___	___	___	___
Speed, Uppers, Crystal	___	___	___	___	___
Valium, Librium Tranks,	___	___	___	___	___
Barbs, Downers Blues, Yellow Jackets, Reds and Blues	___	___	___	___	___
OTHER DRUGS (PLEASE LIST)	___	___	___	___	___

_____

_____

_____

9. IN THE LAST SIX MONTHS OF YOUR INJECTION USE, how often did you **USE** each of the following drugs? (CHECK HOW OFTEN YOU **USED** EACH DRUG)

	Never	Less than once a month	1 - 3 times a month	Once a week or more	Once a day or more
Junk, Heroin	___	___	___	___	___
Coke, Cocaine	___	___	___	___	___
Methadone	___	___	___	___	___
T's and R's	___	___	___	___	___
Speed, Uppers, crystal	___	___	___	___	___
Valium, Librium Tranks,	___	___	___	___	___
Barbs, Downers Blues, Yellow Jackets, Reds and Blues	___	___	___	___	___
Marijuana, Pot Hash	___	___	___	___	___
Alcohol	___	___	___	___	___
OTHER DRUGS (PLEASE LIST)	___	___	___	___	___

_____

_____

_____

10. IN THE LAST SIX MONTHS OF YOUR INJECTION USE, which drug or combination of drugs did you like best?

_____

11. IN THE LAST SIX MONTHS OF YOUR INJECTION USE, how often did you use needles and syringes **used** by someone else (including your partner)? (CIRCLE ONE ONLY)

Never	Less than once a month	1 - 3 times a month	Once a week or more	Once a day or more

12. When you injected with **used** needles and syringes IN THE LAST SIX MONTHS OF YOUR INJECTION USE, were they ever from: (CHECK ALL THAT APPLY)

_____ I never injected drugs with **used** needles or syringes
_____ A family member
_____ A friend
_____ A dealer
_____ Someone in a shooting gallery
_____ A fellow prisoner
_____ Someone you did not know
_____ needles or syringes you found somewhere on the street
_____ Other Please describe _____

13. IN THE LAST SIX MONTHS OF YOUR INJECTION USE, how many different people in total gave you **used** needles and syringes? (CIRCLE ONE ONLY)

None	One Person	2 - 3 People	4 - 5 People	6 - 9 People	10 + People

14. IN THE LAST SIX MONTHS OF YOUR INJECTION USE, how often did you <u>clean</u> **used** needles or syringes? (CIRCLE ONE ONLY)

_____ I never injected drugs with **used** needles or syringes

Always (100% of the time)	**Mostly** (75% to 99% of the time)	**About half** (26% to 74% of the time)	**Occasionally** (1% to 25% of the time)	**Never** (0%)

15. IN THE LAST SIX MONTHS OF YOUR INJECTION USE, how did you **usually** clean **used** needles and syringes? (CHECK ALL THAT APPLY)

_____ I never injected drugs with used needles or syringes
_____ Cold water
_____ Hot or boiling water
_____ Peroxide
_____ Bleach
_____ Other Please Describe _____

IF YOU HAVE **NOT SHARED** NEEDLES OR SYRINGES, PLEASE **SKIP TO THE NEXT PAGE.**

15. Here is a list of reasons that people have given for sharing needles and syringes when injecting drugs. For each statement, please check whether you agree or disagree.

	Agree	Disagree
I enjoy sharing	_____	_____
I always share	_____	_____
My friends put pressure on me to share	_____	_____
I thought it was safe because I cleaned it	_____	_____
I am careful who I share with	_____	_____
I didn't have my own needle and syringe	_____	_____
Needles and syringes are hard to get	_____	_____
I was in custody or prison	_____	_____
Needles and syringes cost too much	_____	_____
It's not legal to have them	_____	_____
No particular reason	_____	_____

The next few questions are about your sexual activity. You may find some of these questions of a personal nature but remember we are asking everyone in the study to answer these questions. Some of them may therefore not apply to you. All information is anonymous.

16. In the last 6 months, have you had sex with men?

_____Yes _____No

17. In the last 6 months, have you had sex with women?

_____Yes _____No

18. In the last 6 months, have you had a sexually transmitted disease?

_____Yes _____No

19. In the last 6 months, have you had vaginal sex?

_____Yes _____No...**IF NO, PLEASE SKIP TO NEXT PAGE**

20. In the last 6 months, how many times have you had vaginal sex? (CIRCLE ONE ONLY)

Less than once a month	1 - 3 times a month	Once a week or more	Once a day or more

21. In the last 6 months, how many different people have you had vaginal sex with? (CIRCLE ONE ONLY)

One Person	2 - 3 People	4 - 5 People	6 - 9 People	10 - 19 People	20 or People

22. How many of these people have injected drugs? (CIRCLE ONE ONLY)

None	One	2 - 3	4 - 5	6 or more	Don't Know

23. In the last six months, how often have you used condoms? (CIRCLE ONE ONLY)

Always (100% of the time)	**Mostly** (75% to 99% of the time)	**About half** (26% to 74% of the time)	**Occasionally** (1% to 25% of the time)	**Never** (0%)

24. In the last 6 months, have you had anal sex?

_____Yes _____No...**IF NO, PLEASE SKIP TO NEXT PAGE**

25. In the last 6 months, how many times have you had anal sex? (CIRCLE ONE ONLY)

Less than once a month	1 - 3 times a month	Once a week or more	Once a day or more

26. In the last 6 months, how many different people have you had anal sex with? (CIRCLE ONE ONLY)

One Person	2 - 3 People	4 - 5 People	6 - 9 People	10 - 19 People	20 or People

27. How many of these people have injected drugs? (CIRCLE ONE ONLY)

None	One	2 - 3	4 - 5	6 or more	Don't Know

28. In the last six months, how often have you used condoms? (CIRCLE ONE ONLY)

Always (100% of the time)	**Mostly** (75% to 99% of the time)	**About half** (26% to 74% of the time)	**Occasionally** (1% to 25% of the time)	**Never** (0%)

29. The following are some common beliefs about AIDS. Please indicate how **true** or **false** you think they are.

	Definitely True	Probably True	Probably False	Definitely False
AIDS can reduce the body's natural protection against disease	____	____	____	____
AIDS leads to death	____	____	____	____
A person can be infected with the AIDS virus and not have the disease AIDS	____	____	____	____
Looking at a person is enough to tell if he or she has the AIDS virus	____	____	____	____
Any person with the AIDS virus can pass it on to someone else during sexual intercourse	____	____	____	____
You can get AIDS by sharing needles for drug use with someone who has the AIDS virus	____	____	____	____
A person who has the AIDS virus can look and feel healthy and well	____	____	____	____
A pregnant woman who has the AIDS virus can give the AIDS virus to her baby	____	____	____	____

30. To the best of your knowledge, is there a difference between having the AIDS virus and having the disease AIDS? (CHECK ONE ONLY)

_____ Yes _____ No _____ Don't Know

31. Have you ever been tested for the AIDS or HIV virus infection? (CHECK ONE ONLY)

_____ Yes _____ No _____ Don't Know

IF YES, were your test results positive or negative?

_____ Positive _____ Negative _____ Don't Know

IF POSITIVE, when were you first told?

_____ Month _____ Year

IF NEGATIVE, when was your last test?

_____ Month _____ Year

32. Please list anything you have done to avoid catching the AIDS virus since you first heard about AIDS.

_____

_____

_____

Additional comments

_____

_____

_____

THANK YOU FOR YOUR HELP.

PLEASE PLACE YOUR QUESTIONNAIRE IN THE BOX PROVIDED.

INJECTION DRUG USE STUDY: SURVEY INSTRUCTIONS

Thank you for helping us administer the questionnaire for this study. Hopefully, the study will provide useful information about AADAC clients' attitudes, behavior and treatment needs related to the transmission of the AIDS virus.

Instructions for administering the questionnaires are as follows:

1. The questionnaire should be completed by clients at the end of their first visit to the Downtown Treatment Center. In some cases, this will be at the end of intake. In other cases, this will be at the end of the first counselling session.

2. The questionnaire should only be completed by **adult or adolescent clients (not collaterals) indicating past or current injection drug use.** Consistency is important, so we do not end up with a biased sample. Please ask all new clients whether they have ever injected drugs during your session with them.

3. **Adolescent clients** are an important group to include in the study for they are more likely to engage in behaviors that place them at risk for acquiring or transmitting the AIDS virus. In 1988/89, almost half (46%) of adolescents admitted to outpatient facilities only had one visit. Knowing this, we would prefer that adolescents are asked to complete the survey at the end of their first visit. However, in some cases this may not be appropriate and we would like counsellors to administer the survey at the earliest time possible during the assessment.

4. If a client feels strongly that he or she does not want to participate in the study, that is okay. The survey is voluntary.

5. Clients are only to complete the survey once. The start date for administering the survey is April 2, 1990. If a client has completed the survey at another facility (e.g. AADAC Recovery Center), he or she does not complete the questionnaire again.

6. Please ask each client **not** to put his or her name on the questionnaire. The questionnaire is anonymous and will **not** in any way be connected to the clients involvement with AADAC.

7. Please ask the client to place the completed questionnaire in the box provided in the reception area.

8. If clients have any questions about the survey, they are to ask the counsellor or receptionist.

9. If a client asks what happens to the information, please explain that the questionnaires are sent to AADAC's research unit where the information is analysed and a report is prepared. The information will be used to improve services to clients.

10. If a client asks for information about the study results, the client can contact our unit, Policy and Program Analysis, in late fall 1990.

11. During the 1988/89 fiscal year, 346 clients admitted to DTC indicated injection drug use at some time in their lives. Based on this number, we hope to get about 45 completed questionnaires from your facility. This is expected to take from 1-2 months.

12. Please call me, if you require more questionnaires.

Thanks again for your help with this study. If you would like further information, please feel free to call me.

Kathy Huebert
Policy and Program Analysis 427-4275

APPENDIX B

CLIENT LEVEL OF RISK - SCALE CONSTRUCTION

CLIENT LEVEL OF RISK - SCALE CONSTRUCTION

Sexual Risk Scale

Nine Items: had a sexually transmitted disease (0 = no and 1 = yes); frequency of vaginal or anal sex (0 = not at all to 4 = one or more times per day); number of partners for vaginal or anal sex (0 = none to 4 = six or more); number of sexual partners (vaginal or anal) who injected drugs (0 = none to 4 = six or more); condom use for vaginal or anal sex (0 = always to 4 = never).

Value Range: 0 to 33

Scale Reliability: Alpha = .71

Client Scores: Range = 0 to 25
Mean = 8.54 Standard Deviation = 4.67

Drug Risk Scale

Four Items: number of times sharing needles (0 = never to 4 = one or more times per day); obtained needles from a shooting gallery (0 = no and 1 = yes); frequency of cleaning needles (0 = always to 4 = never); cleaning method (0 = do not share, 1 = more effective and 2 = less effective).

Value Range: 0 to 11

Scale Reliability: Alpha = .73

Client Scores: Range = 0 to 11
Mean = 3.72 Standard Deviation = 3.10

Categories of Risk - Categories of risk were established on the basis of client score distributions for each scale (scale correlation; $r = .25$, $p = .012$).

Low Risk = clients who scored values below one standard deviation from the mean.

Moderate Risk = clients who had scores falling between one standard deviation below and one standard deviation above the mean.

High Risk = clients who scored values exceeding one standard deviation above the mean.